Final Evaluation Report

Your Details	
Full Name	Aditi Subba
Project Title	Bats and Chiuri of Chepang Heritage Trail: The Mutualistic Relationship between fruit-eating bats, chiuri and indigenous Chepang community.
Application ID	35194-2
Date of this Report	September 23, 2022

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Capture footage of bats feeding on chiuri and create a short documentary based on their interrelationship.			■	A short documentary was produced showcasing the footage of bats feeding on chiuri at night-time.
Chiuri plantation program in coordination with local Community Forest User Groups (CFUGs) members.			■	A total of 3000 chiuri saplings were planted around the community forests of the project area in coordination with local stakeholders.
Vegetation survey of Chiuri within the project area.		■		Only two wards of the project area were focused to conduct the vegetation survey since it was the only area where chiuri was abundant.
Information dissemination about the project's finding to the local community and key stakeholders.			■	The short documentary was showcased among the local community and was shared online as well with a few key stakeholders.

2. Describe the three most important outcomes of your project.

a). *Documentary showcasing the relationship between Chiuri, Chepang and Fruit-eating Bats*

Despite the challenges, we were able to produce a short documentary about the relationship between Chiuri, Chepang and fruit-eating bats. The video was shared with the local communities through workshop programs and shared online through the organisation's formal social media handles. The video has generated mostly positive responses while there were few suggestions for in-depth information about the relationship.

b). *Chiuri sapling plantation in the forest area*

In our previous study, it was concluded that Chiuri was decreasing in the project area, a statement that was reemphasised in this study as well by the local people. Plantation of chiuri sapling was hence initially planned to increase the local flora in the project area. Generally, it takes about 8-10 years for the chiuri tree to produce its first batch of fruits. Hence, the saplings that were planted during this project period will bear fruits after almost a decade. This means that, if preserved properly, the fruit-eating bats from the local area will have enough fruits to consume even after a decade

c). *Vegetation survey of chiuri trees in the project area*
Very few vegetation studies have been conducted in the focused area, causing lack of baseline data for any further possible research studies. Hence, this study was significant for future vegetation research in the project area. A total of 243 plant species were recorded in the survey and about 595 chiuri trees were observed between Siddhi to Chauki Danda, i.e., the area where chiuri trees were most prominent. Besides that, 44 species of other wild edible fruits were also recorded.

The most significant achievement of this project is indeed the image and video capture of fruit-eating bats in chiuri plants. The main aim of this project was to document fruit-eating bats in action and inform their direct role in chiuri pollination and seed dispersal to spread awareness in the Chepang community and the general public. This was the first digital evidence of the interrelationship between fruit-eating bats and chiuri for Nepal. With the direct evidence collected, the project will be able to raise awareness of the mammals' role in the ecosystem among the Chepang community and the larger audience throughout the country and globally.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

One of the major challenges that arose during the project was to capture the fruit-eating bat in the chiuri flower. Since this was the first time that we were trying to capture the image through a still and/or moving image, we hadn't analysed the swiftness of the mammal while feeding in the flowers. Bats were extremely quick, and it was extremely difficult to capture them in our cameras. We had to use one slow motion video camera and two highly powerful still-image cameras every night for a week to finally capture the shot of fruit-eating bats foraging on the chiuri flowers.

Furthermore, the use of lights was necessary to capture them in our cameras, but bats tend to avoid wherever they experience artificial lights. Hence, we had to use a couple of tactics while using lights. Firstly, we chose adjustable night-lights to shine on chiuri flowers and place one camera on focus. The lights were dimmed while waiting for the bats and when we noticed bats flying, the brightness was increased before taking a shot. Then, we also had to use extremely powerful torch lights to identify the bats and click pictures while doing so.

Finally, there was the extremity of monsoon season right around when vegetation survey was planned. Since this was expected, we shifted our survey right after the monsoon started getting lighter to avoid hazards and risks.

4. Describe the involvement of local communities and how they have benefitted from the project.

This project would have not been possible without the cooperation of the local community who were not only helpful with their information, but also faithfully honest in what they knew about the project's focus of study. The community were involved as the key informants while generating information for the documentary, guidance in finding the right tree to capture the fruit-eating bats images and sharing

necessary manpower where the team lacked. The documentary produced hence will be able to appeal mass about the importance of bats and chiuri in the community. Moreover, the Heritage Trail has been highlighted in the documentary to open doors for cultural tourism and economic opportunities for the local communities as well.

Apart from that, community forest user group members also eagerly participated in the plantation of chiuri saplings in their respective community forests. The planted saplings will be able to provide the local community and community forests with more chiuri productions in the future.

5. Are there any plans to continue this work?

Yes, the documentary has been submitted to Kathmandu International Mountain Film Festival (KIMFF) 2022 for further promotion about the mutualistic relationship between bats, Chepang and chiuri. A general article is being planned to publish in a Nepali newspaper whilst information gained from the vegetation survey will be published in a peer-reviewed journal. Further plan from the project is to train youths in bat monitoring techniques and expand awareness about the mutualistic relationship in other Chepang communities as well.

6. How do you plan to share the results of your work with others?

The produced documentary was released in the organisation's official YouTube channel that was shared with the general public along with the local community. The documentary has also been sent as an entry for Kathmandu International Mountain Film Festival (KIMFF). Project's general results were shared with the local government body in the form of a project report. A general article focusing on the awareness of the Chiuri-Chepang-Bats relationship will be published in a national online newspaper.

7. Looking ahead, what do you feel are the important next steps?

Due to the release of our documentary, more youth from the Chepang community have become interested in learning about fruit-eating bats and their significance in the ecosystem. This is a positive output from our work and to enhance advantageous outcomes, it is also important to encourage conservation activities among interested youths. Hence, a technical workshop/training on bat monitoring among the youths is necessary to instigate conservation in the project area. Moreover, interrelationship between Chepang-chiuri-bats should not only confine in only the project area, but also expand in other Chepang communities. Therefore, further plan from the project is to train youths in bat monitoring techniques and expand awareness about the mutualistic relationship in other Chepang communities as well.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

The Rufford Foundation logo was used in the short documentary produced by the project under the heading financial support. Link for the video was emailed to the foundation.

9. Provide a full list of all the members of your team and their role in the project.

Ms Aditi Subba was the principal investigator of the project. She did her master's in environmental Conservation and was previously a recipient of Rufford Small Grant before this project. Her role for the project was to lead the team into completion of the action plans while coordinating all the aspects of the project.

Ms. Sabita Gurung was the research assistant. She completed Masters in Zoology and has good experience of field designing, data analysis and field visits. Her role for the project was to assist the principal investigator of the project in conducting various action plans and interaction with the local community.

Mr. Yagyalal Gyawali was the videographer for the project. He has been involved in video documenting of Nepal Owl Festival 2018 and had previous experience with night filming as well. His role was to coordinate with locals in finding the perfect spot where chiuri and bats can be recorded, capture moving and still images of the bats and produce a short documentary with the captured footage.

Mr. Keshab Acharya possesses good field experience of vegetation survey in the mid-hills of Nepal and is also a local resident of the project area. His role in the project was to co-plan the vegetation survey with the team and assess the abundance and distribution of chiuri plants within the project area.

10. Any other comments?

The team would like to express their gratitude towards The Rufford Foundation for its support. Similarly, we would like to extend our gratitude towards the Chepang community for their warm welcome and cooperation while creating our short documentary. We would not have been able to complete this without their help and support.